## (19) World Intellectual Property Organization International Bureau





(43) International Publication Date 23 February 2006 (23.02.2006)

## (10) International Publication Number WO 2006/019411 A2

(51) International Patent Classification: *C12Q 1/68* (2006.01)

(21) International Application Number:

PCT/US2005/006250

(22) International Filing Date:

25 February 2005 (25.02.2005)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/547,950

26 February 2004 (26.02.2004) US

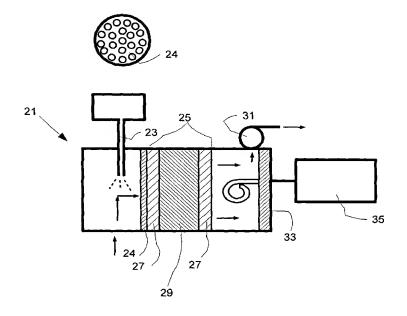
- (71) Applicant (for all designated States except US): BRIGHAM YOUNG UNIVERSITY [—/US]; Technology Transfer Office, 3760 HBLL, Provo, UT 84602-1231 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only):

BARTHOLOMEW, Calvin, H. [US/US]; 440 North 600 East, Orem, UT 84097 (US). JIA, Zhijun [CN/US]; 353 East 200 North, Apt. 12, Provo, UT 84606 (US). SMITH, Philip, R. [US/US]; 485 South State Street, #308, Provo, UT 84606 (US). NACKOS, Aaron, Nicholas, Nackos [US/US]; 1781 South Oregon Avenue, Provo, UT 84606 (US). LEE, Milton, Lee, L. [US/US]; 2400 North 180 West, Pleasant Grove, UT 84062 (US). LEE, Edgar, D. [—/US]; 5138 West Country Club Drive, Highland, UT 84003 (US).

- (74) Agent: SONNTAG, James, L.; P.O. Box 9194, Salt Lake City, UT 84109 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY,

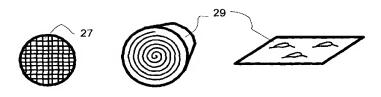
[Continued on next page]

(54) Title: CATALYTIC PRODUCTION OF BIOMARKERS FROM BIOLOGICAL MATERIALS



(57) Abstract: An apparatus and method for detecting a biological material, such as bacterial spores (e.g. Anthrax) which reacts non-volatile biomarker precursors to volatile precursors by heating the biological material in the presence of a catalyst.





- TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## **Declaration under Rule 4.17:**

of inventorship (Rule 4.17(iv)) for US only

## Published:

 without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.